CLAIMS

I claim:

1. A six-stroke internal combustion engine with reciprocating piston, comprising:

(a) at least one intake-exhaust valve; said intake-exhaust valve is located at the top of the combustion chamber; said intake-exhaust valve functions as an intake valve in an intake stroke; said intake-exhaust valve functions as an exhaust valve in an exhaust stroke;

(b) said intake-exhaust valve opens at the beginning of an intake stroke and closes at the end of the intake stroke; then

(c) said intake-exhaust valve remains closed in the compression stroke and the combustion stroke; and then

(d) said intake-exhaust valve opens at the beginning of an exhaust stroke and closes at the end of the exhaust stroke; and then

(e) said intake-exhaust valve opens in the middle of the fifth stroke while a piston is moving downward; and then

(f) said intake-exhaust valve closes at the beginning or in the middle of the sixth stroke while the piston is moving upward.

2. The engine as claimed in claim 1 wherein:

(a) at least one exhaust valve is mounted in the side of a cylinder head, outside the combustion chamber in an outlet port;

(b) said exhaust valve is closed in an intake stroke, the compression stroke, and the combustion stroke.

(c) said exhaust valve is open in the exhaust stroke, the fifth stroke and the first half of the sixth stroke; said exhaust valve can also be closed at the end of the sixth stroke.

3. The engine as claimed in claim 1 wherein:

(a) there is a cam in the camshaft for each of the intake-exhaust valves;

(b) said cam has a first cam lobe to open the intake-exhaust valve in an intake stroke; and

(c) said cam has a second cam lobe to open said valve in an exhaust stroke; and

(d) said cam has a third cam lobe to open said valve in the middle of the fifth stroke and to close said valve at the beginning or in the middle of the sixth stroke.

4. The engine as claimed in claim 1 wherein:

(a) there is a cam in the camshaft for each of the exhaust valves;

(b) said cam has a cam lobe to open the exhaust valve at the beginning of an exhaust stroke and to close said valve in the middle, or at the end of the sixth stroke.

5. The engine as claimed in claim 1 wherein, one inlet port and one outlet port are connected to each other in the cylinder head close to the backside of each of the intake-exhaust valves.

6. The engine as claimed in claim 1 wherein:

(a) four valves are located at the top of the combustion chamber for each cylinder;

(b) two of said valves are intake-exhaust valves;

(c) the other two valves are just intake valves;

(d) said intake-exhaust valves and said intake valves open at beginning of an intake stroke and close at the end of the intake stroke; then

(e) said intake-exhaust valves and said intake valves remain closed in the compression and combustion strokes; and then

(f) said intake-exhaust valves open at beginning of an exhaust stroke and close at the end of the exhaust stroke; and

(g) said intake-exhaust valves remain closed in the fifth and sixth strokes;

(h) said intake valves open in the middle of the fifth stroke and close at the beginning of the sixth stroke.

7. The engine as claimed in claim 6 wherein;

(a) at least one exhaust valve is mounted in the side of the cylinder head, outside the combustion chamber;

(b) said exhaust valve opens at the beginning of an exhaust stroke and closes in the middle or at the end of the sixth stroke.

8. The engine as claimed in claim 1, comprising:

(a) a crankshaft for a four-cylinder engine,

(b) crankpins connected to pistons of two cylinders, having subsequent firing order, are 270 degrees apart on said crankshaft.

(c) the formula for other multi-cylinder engines is: 1080 divided by the number of cylinders.